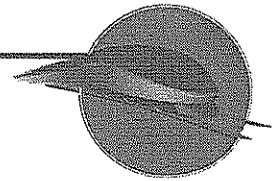


Project Name: CT-NEC-NH Signal&PTC Date of Submission: 08-21-09 Version Number: 1

High Speed Intercity Passenger Rail (HSIPR) Program

Application Form

Track 1b-PE/NEPA



Welcome to the Track 1b – Preliminary Engineering (PE)/National Environmental Protection Act (NEPA) Application for the Federal Railroad Administration’s High Speed Intercity Passenger Rail (HSIPR) Program. Applicants for Track 1b-PE/NEPA are required to submit this Application Form and Supporting Materials (forms and documents) as outlined in Section G of this application as well as detailed in the HSIPR Guidance.

We appreciate your interest in the program and look forward to reviewing your application. If you have questions about the HSIPR program or this application, please contact us at HSIPR@dot.fra.gov.

Instructions:

- Please complete this document and provide any supporting documentation electronically.
- In the space provided at the top of each section, please indicate the project name, date of submission (mm/dd/yy) and the application version number. The distinct Track 1b project name should be less than 40 characters and follow the following format: State abbreviation-route or corridor name-project title (e.g., HI-Fast Corridor-Track Work IV).
- For each question, enter the appropriate information in the designated gray box. If a question is not applicable to your PE/NEPA Project, please indicate “N/A.”
- Narrative questions should be answered concisely in the space provided.
- Applicants must upload this completed application form and any supporting documentation to www.GrantSolutions.gov by August 24, 2009 at 11:59pm EDT.
- Fiscal Year (FY) refers to the Federal Government’s fiscal year (Oct. 1- Sept. 30).
- Please direct questions to: HSIPR@dot.gov

A.Point of Contact and Application Information

(1) Application Point of Contact (POC) Name: JAMES P. REDEKER		POC Title: PUBLIC TRANSPORTATION BUREAU CHIEF		
Street Address: 2800 Berlin Turnpike	City: Newington	State: CT	Zip Code: 06410	Telephone Number: 860-594-2802
Fax: 860-584-3406		Email: James.Redeker@ct.gov		
(2) Name of lead State or organization applying: Connecticut Department of Transportation				
(3) Name(s) of additional States and/or organizations applying in this group (if applicable): NA				

(4) Is this PE/NEPA Project related to additional applications for HSIPR funding (under this track or other tracks)?

☒ Yes ☐ No ☐ Maybe

If "Yes" or "Maybe" provide the following information:

Other Program/Project Name	Lead Applicant	Track	Total HSIPR Funding Requested (if known)	Status of Application
Devon to New Haven Track 3 restoration,C&S	CTDOT	Track 1b - PE/NEPA	\$ 600,000	Applied
		Track 1a - FD/Construction	\$	Applied
		Track 1a - FD/Construction	\$	Applied
		Track 1a - FD/Construction	\$	Applied

Project Name: CT-NEC- NH Signal & PTC Date of Submission: 08-21-09 Version Number: 1

B. Project Overview

(1) PE/NEPA Project Name: CT-NEC-NH Signal&PTC Design

(2) Indicate the activity(ies) for which you are applying:

☒ Preliminary Engineering (PE)
 ☒ NEPA site-specific

(3) What are the anticipated start and end dates for this PE/NEPA Project? (mm/yyyy)

Start Date: 12/2009

End Date: 12/2011

(4) PE/NEPA Project Narrative. Please limit response to 4,000 characters.

Describe the PE/NEPA activities that would be completed with HSIPR Track 1 funding through this application. Include the design studies and the resulting project documents for PE activities. For NEPA activities, address the technical and field studies that would be completed and documents that would be prepared, including:

- Project component studies
- PE/NEPA tasks / milestones
- Preparation of documents

Describe the agency and public involvement approach including key activities and objectives (including permitting actions). Address the coordination plan with affected railroads and right-of-way owners.

Metro North Railroad and ConnDOT have jointly undertaken the design for the replacement of the aging signal and communication system operating on the NEC between NYC and New Haven, CT. The design for the signal system will modernize the current system from a relay based system, (that is not supported by railroad equipment manufacturers), to an electronic microprocessor based computerized system. The preparation of the documents necessary to proceed to final design will be funded under this Track 1b application.

(5) Status of Activities: In the following table, please indicate the status of planning studies/documentation supporting your planned investment. Indicate the status and key dates for each applicable activity as noted in Appendix 2 of the HSIPR Guidance.

	Select <u>One</u> of the Following:				Provide Dates for all activities:	
	N/A	No study exists	Study Initiated	Study Completed	Actual or Anticipated Initiation Date (mm/yyyy)	Actual or Anticipated Completion Date (mm/yyyy)
Activities/Documents						
Environmental Studies						
Final NEPA Document (Categorical Exclusion (CE) documentation, Environmental Assessment (EA), or Environmental Impact Statement (EIS))	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12/2009	
Historic and Cultural Resource Studies	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12/2009	12/2011



Biological Surveys and Assessment	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12/2009	12/2011
Wetlands Delineation and Hydrology Studies	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12/2009	12/2011
Community Impact Assessment	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12/2009	12/2011
Traffic Impact Studies	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Air Emission Studies	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12/2009	12/2011
Noise and Vibration Studies	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12/2009	12/2011
Preliminary Engineering						
Capital Cost Estimates	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12/2009	12/2011
Travel Demand Forecasting	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12/2009	12/2011
Operations Analysis	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12/2009	12/2011
Operations & Maintenance Cost Estimates	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12/2009	12/2011
System Safety Program Plan and Collision/derailment Hazard Analysis	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12/2009	12/2011
Engineering Studies - specify in space below: civil speed restrictions	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12/2009	12/2011
Design Drawings	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12/2009	12/2011
Project Management Plan	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12/2009	12/2011
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

(6) Planned Investment. Please limit response to 4,000 characters.

Provide an overview of the main features of the planned investment that is the subject of the PE/NEPA Project including a brief description of:

- The location of the planned investment, including name of rail line(s), State(s), and relevant jurisdiction(s) (*upload map if applicable*).
- Identification of existing service(s) that would benefit from the project, the cities/stations that would be served, and the state(s) where the service operates.
- How the planned investment was identified through a planning process and how it is consistent with an overall plan for developing High-Speed Rail/Intercity Passenger Rail service.
- How the project will fulfill a specific purpose and need in a cost-effective manner.
- The existing and planned intercity passenger rail service(s).
- The project's independent utility.
- The specific improvements contemplated.

- Any use of railroad assets or rights-of-way, and potential use of public lands and property.
- Other rail services, such as commuter rail and freight rail that will make use of, or otherwise be affected by, the planned investment.

Project Description: The New Haven Rail Line (NHRL) and its branch lines, are located in Connecticut and New York State. The Connecticut cities that have main line passenger stations are located in Greenwich, Cos Cob, Riverside, Old Greenwich, Stamford, Noroton Heights, Darien, Royaton, South Norwalk, East Norwalk, Westport, Green's Farms, Southport, Fairfield, Bridgefield, Stratford, Milford, New Haven Union and New Haven State Street.

More efficient use of track capacity will allow for increased intercity service and operating speeds (up to 110 mph) currently limited by the existing signal system. Increased demand for track time requires system upgrades to improve the capacity for intercity as well as commuter rail. The existing design of the wayside signal system was based on freight train speeds and braking distances, in 1975. The new signal speeds and braking distances shall be based on high-speed commuter service as projected to 2030 with 24 trains per hour, with a five mile per hour's difference between the Maximum Authorized Speed (MAS) and the Signal Design Speed (SDS) and the addition of several new cab signal aspects for the new design criteria. Modifications to the existing Communications Network Infrastructure, fiber optic system, will be necessary to facilitate the operating system.

Modifications of the current wayside signal and cab signal system by the addition of several cab rates will be preformed. This will allow maximum usage of tangential and high speed, track crossovers, respacing of the current signal aspect and block system and greater train capacity by decreasing spacing between trains. It will improve overall train speed between stations. Relocation of some signals and track crossover will reduce congestion and provide better train separation on the Northeast Corridor (NEC).

Replacing the current 40-year-old signal apparatus, with electronic track signal equipment, and installation of internet protocol (IP) based networking system to be integrated into the signal and communications system will provide seamless train control.

This will upgrade the current design for the freight oriented signal system to a high-speed commuter oriented signal and communications system; this will increase the number of trains allowed and their operating speeds within a given section of railroad operating territory. This will allow increased available trips and expand the current rail service to accommodate more rail passengers commuting into and out of the metropolitan area within the Northeast Corridor.

Currently, Metro North Railroad (MNRR) for the ConnDOT is advertising a section of Communication and Signal (C&S) and track improvements, that extends from Woodlawn in New York State (NYS) along the NHL to approximately CP 229 which is approximately 2.7 miles into the Connecticut section of the NHRL. Design for this section is \$1,700,000.00, while construction is \$10,950,000.00 and both have been funded by CT. The PE and NEPA cost for the entire signal system upgrade is \$13,483,582.

(7) Indicate the expected service objectives (check all that apply):

- | | |
|--|--|
| <input checked="" type="checkbox"/> Additional Service Frequencies | <input checked="" type="checkbox"/> Improved On-Time performance on Existing Route |
| <input checked="" type="checkbox"/> Service Quality Improvements | <input checked="" type="checkbox"/> Increased Average Speeds/Shorter Trip Times |
| <input type="checkbox"/> Other (Please Describe): | |

(8) Indicate the type of expected capital investments to be included in the planned investment (check all that apply):

- | | |
|--|--|
| <input type="checkbox"/> Structures (bridges, tunnels, etc.) | <input type="checkbox"/> Rolling Stock Acquisition |
| <input type="checkbox"/> Track Rehabilitation | <input type="checkbox"/> Support Facilities (Yards, Shops, Admin. Buildings) |
| <input type="checkbox"/> Major Interlockings | <input checked="" type="checkbox"/> Grade Crossing Improvements |
| <input type="checkbox"/> Station(s) | <input type="checkbox"/> Electric Traction |
| <input checked="" type="checkbox"/> Communication, Signaling and Control | <input type="checkbox"/> Other (Please Describe): |
| <input type="checkbox"/> Rolling Stock Refurbishments | |

(9) Total Cost of PE/NEPA Project: (Year of Expenditure (YOE) Dollars*) \$ 13,483,582.00

Of this amount, how much would come from the FRA HSIPR Program: (YOE Dollars) \$ 13,483,582.00**

Indicate the percentage of total cost to be covered by matching funds: % 0

* Year-of-Expenditure (YOE) dollars are inflated from the base year. Applicants should include their proposed inflation assumptions (and methodology, if applicable) in the supporting documentation

** This is the amount for which the applicant is applying.

(10) Right-of-Way Owner(s): Provide the status of agreements with railroad(s) that own the right-of-way. If appropriate, "owner(s)" may also include operator(s) under track age rights or lease agreements. *If more than two railroads, please detail in "Additional Information" in Section F of this application.*

Railroad owner 1 (Name):

CTDOT State of Connecticut

Status of railroad owner 1 *(Click on the appropriate option from the dropdown menu shaded in gray):*

Master Agreement in place

Railroad owner 2 (Name):

Status of railroad owner 2 *(Click on the appropriate option from the dropdown menu shaded in gray):*

Master Agreement in place

(11) Intercity Passenger Rail Operator: If applicable, provide the status of agreement(s) with partner(s) that will operate the benefiting planned High-Speed Rail/Intercity Passenger Rail services after completion of the planned investment (e.g., Amtrak). *Click on the appropriate option from the dropdown menu shaded in gray:*

Name of Operating Partner: Amtrak

Status of Agreement: No agreement, but partner supports project

(12) Benefits to Other Types of Rail Service: If benefits to non-intercity passenger rail services are foreseen from the planned investment, please briefly describe those agreements and provide details on their status if applicable. *Please limit response to 1,000 characters.*

The planned investment will benefit the New Haven Line rail service operated by Metro-North Railroad for the State, in terms of operational reliability and on time performance. Compliance with Federal Railroad Administration (FRA) regulations for PTC, for all operating railroads on the NEC will create a safer operating environment. Additional cab signal rates provide civil speed restriction applications which will increase operational efficiency.

Project Name: CT-NEC-NH Signal&PTC Date of Submission: 08-21-09 Version Number: 1

C. Eligibility Information

(1) **Select applicant type**, as defined in Appendix 1.1 of the HSIPR Guidance (*check the appropriate box from the list*):

- ☒ State
☐ Amtrak

If one of the following, please append appropriate documentation as described in Section 4.3.1 of the HSIPR Guidance:

- ☐ Group of States
☐ Interstate Compact
☐ Public Agency established by one or more States
☐ Amtrak in cooperation with one or more States

D. Public Return on Investment

(1) **Transportation Project Benefits.** *Please limit response to 2,000 characters.*

Describe the transportation benefits that are anticipated to result from the planned investment for which you are conducting PE/NEPA, including the extent to which the planned investment may be expected to:

- Lead to benefits for Intercity Passenger Rail including travel time reductions, increased frequencies, and enhanced service quality
- Address safety issues
- Address intercity passenger rail reliability issues
- Be integrated and complementary to the relevant comprehensive planning process (23 U.S.C. 135)
- Provide benefits to other modes of transportation, including benefits to Commuter Rail Services, Freight Rail Service, and Highway and Air Congestion Reduction and Delay or Avoidance of Planned Investments

This C&S upgrade, with the installation of PTC, will enhance and upgrade the current design from the freight oriented signal system to a high-speed commuter oriented C&S system. This will increase the number of trains allowed and their operating speeds within a given section of railroad operating territory. It will also decrease the block spacing distance between train and allow increased available trips, by expanding the current rail service. It will accommodate more rail passengers commuting into and out of the metropolitan area within the NEC. Currently, MNRR, on behalf the ConnDOT, is advertising a section of C&S and track improvements extending from Woodlawn in New York State to approximately CP 229 (Riverside Station) which is approximately 2.7 miles into the CT.

(2) **Environmental Project Benefits Narrative.** *Please limit response to 1,000 characters.*

Describe the intended contribution of the planned investment for which you are conducting PE/NEPA towards improved environmental quality, energy efficiency and reduction in the dependence on oil.

Upgrading the current C&S system to accept PTC, while modifying signal block indications and adding cab signal aspects, will allow for closer train spacing and increase passenger capacity per hour. Increased passenger volume for mass transit service, especially during peak hours, will reduce single occupant automobile fuel requirements and reduce highway congestion. The corresponding reduction in Vehicle Miles Traveled (VMT) and Vehicle Hours Traveled (VHT) will result in fewer carbon and particulate matter emissions into the environment.

(3) **Livable Communities Project Benefits Narrative.** *Please limit response to 3,000 characters.*

Describe the anticipated benefits of the planned investment for which you are conducting PE/NEPA for fostering and promoting Livable Communities, and include information on the following:

- Integration with existing high density, livable development (including relevant details on livable development (e.g., central business districts with walking and public transportation distribution networks with transit oriented development)).
- Development of intermodal stations with direct transfers to other transportation modes (both intercity passenger transport and local transit).

Livable communities contain development that encourage the use of multiple transportation options. Neighborhoods are designed with a mix of retail, employment and housing with a development pattern that encourages transportation modes other than single occupant automobiles. These communities are strongly linked with transit and promote walking or bicycling to destinations. By improving frequency, speed and reliability of service, rail travel becomes an increasingly attractive option. The proposed improvements will work to encourage livable communities and transit oriented development at stations along the NEC.

(4) Economic Recovery Benefits. *Please limit response to 2,000 characters.*

Estimate the benefit that the PE/NEPA Project and the planned investment for which you are conducting PE/NEPA will make towards economic recovery and reinvestment, including information on the following:

- How both the PE/NEPA Project and the planned investment will result in the creation and preservation of jobs (including number of onsite and other direct jobs (on a 2080 work-hour per year, full-time equivalent basis). Include a timeline for the anticipated job creation, specifying which jobs would be created for the PE/NEPA studies and an estimate for the planned investment (consider the construction period and operating period).
- How the project represents an investment that will generate long-term economic benefits (including the timeline for achieving economic benefits) and describe, if applicable, how the project was identified as a solution to a wider economic challenge.
- If applicable, how the project will help to avoid reductions in State-provided essential services.

Construction jobs, engineering services, maintenance services all will be increased as additional passengers are established in the mass transit community. Using the standard formula for stimulus job creation where \$92,000 in investment creates one full-time job (based on a 2080 work hour per year basis), 146 direct jobs would be created by the project.

Project Name: CT-NEC-NH Signal&PTC Date of Submission: 08-21-09 Version Number: 1

E. Project Success Factors

(1) Project Management Approach and Applicant Qualifications. Please limit response to 3,000 characters.

Describe qualifications of the applicant and its key partners for undertaking the PE/NEPA Project, include the following information:

- **Management Experience** – provide relevant information on experience in managing rail programs and planning activities of a similar size and scope to the one proposed in this application. Provide an organizational chart (or equivalent) that outlines the roles played by key project team members in completing activities as well as information on the role of contract support, engineering support and program management.
- **Financial Management Capacity and Capability**– provide relevant information on capability to absorb potential planning project cost overruns.
- **Risk Assessment** – provide a preliminary assessment of uncertainties within the planning process and possible mitigation strategies (consider grantee risk, funding risk, schedule risk and stakeholder risk).

The project team (design/planning consultant, Amtrak and CTDOT) has a successful track record of working together on past improvements to the NEC service which has been demonstrated by ontime delivery, successful collaboration with NEC operations personnel and increases in ridership after the completion of every construction contract.

The planning, design and construction efforts required by this project are similar to much of the other work that CTDOT undertakes on a regular basis. The necessary administrative, oversight, inspection, and design staff are already in place.

(2) Funding Sources: In the following table, please provide the requested information about your funding sources (if applicable)

Non FRA Funding Sources	New or Existing Funding Source?	Status of Funding ¹	Type of Funds	Dollar Amount (YOE \$)	% of Total Project Cost	Describe any uploaded supporting documentation to help FRA verify funding source

(3) Project Implementation Narrative. Please limit response to 1,000 characters.

Provide a preliminary self-assessment of PE/NEPA Project uncertainties and mitigation strategies (consider grantee risk, funding risk, schedule risk and stakeholder risk). Describe any areas in which you could use technical assistance, best practices, advice or support from others, including FRA.

The uncertainties of this project lie with the selection of the NEPA documentation. It is the applicants belief that a Categorical Exclusion will be adequate for NEPA compliance. However additional environmental documentation may be required. If this scenario occurs, Connecticut is prepared to account for any possible cost overruns to be sure the project will be advanced to final design and construction. Advice and support will be needed when applying for FRA NEPA compliance.

¹ **Reference Notes:** The following categories and definitions are applied to funding sources:

Committed: Committed sources are programmed capital funds that have all the necessary approvals (e.g. legislative referendum) to be used to fund the proposed project without any additional action. These capital funds have been formally programmed in the State Rail Plan and/or any related local, regional, or state Capital Investment Program (CIP) or appropriation. Examples include dedicated or approved tax revenues, state capital grants that have been approved by all required legislative bodies, cash reserves that have been dedicated to the proposed project, and additional debt capacity that requires no further approvals and has been dedicated by the sponsoring agency to the proposed project.

Budgeted: This category is for funds that have been budgeted and/or programmed for use on the proposed project but remain uncommitted, i.e., the funds have not yet received statutory approval. Examples include debt financing in an agency-adopted CIP that has yet to be committed in their near future. Funds will be classified as budgeted where available funding cannot be committed until the grant is executed, or due to the local practices outside of the project sponsor's control (e.g., the project development schedule extends beyond the State Rail Program period).

Planned: This category is for funds that are identified and have a reasonable chance of being committed, but are neither committed nor budgeted. Examples include proposed sources that require a scheduled referendum, requests for state/local capital grants, and proposed debt financing that has not yet been adopted in the agency's CIP.

(4) Timeliness of Project Completion. *Please limit response to 1,000 characters.*

Describe the extent to which the PE/NEPA Project will lead to future project and/or Service Development Program applications for Tracks 1 FD/Construction and Track 2 Programs.

The goal of this PE/NEPA project is to prepare the necessary NEPA for a future application under Track 1a FD/Construction or under Track 2 Programs. It is anticipated that both PE and NEPA compliance will be completed by December 2011.

Project Name: CT-NEC-NH Signal & PTC Date of Submission: 08-21-09 Version Number: 1

F. Additional Information

- (1) Please provide any additional information, comments, or clarifications and indicate the section and question number that you are addressing (e.g., Section D, Question 3). This section is optional.**

In partnership with Metro North Railroad, ConnDOT has funded \$ 1,700,000.00 for design of the up graded communications and signal system from Woodlawn New Your to River side Connecticut . The section which is within Connecticut is approxmitly 2.7 mile long.ConnDOT has funded the construction cost which is \$10, 500,000.00

Project Name: CT-NEC-NH Signal & PTC Date of Submission: 08-21-09 Version Number: 1

G. Summary of Application Materials

Program Forms	Required	Optional	Reference	Description	Format
<input type="checkbox"/> Application Form	✓		HSIPR Guidance Section 4.3.3.3	This document to be submitted through <i>GrantSolutions</i> .	Form
Supporting Documentation	Required	Optional	Reference	Description	Format
<input type="checkbox"/> Planned Investment map		✓	Application Question B.6	Map of the Planned Investment location. Please upload into <i>GrantSolutions</i> .	None
Standard Forms	Required	Optional	Reference	Description	Format
<input type="checkbox"/> SF 424: Application for Federal Assistance	✓		HSIPR Guidance Section 4.3.3.3	Please submit through <i>GrantSolutions</i>	Form
<input type="checkbox"/> SF 424A: Budget Information-Non Construction	✓		HSIPR Guidance Section 4.3.3.3	Please submit through <i>GrantSolutions</i>	Form
<input type="checkbox"/> SF 424B: Assurances-Non Construction	✓		HSIPR Guidance Section 4.3.3.3	Please submit through <i>GrantSolutions</i>	Form
<input type="checkbox"/> FRA Assurances Document	✓		HSIPR Guidance Section 4.3.3.3	May be obtained from FRA's website at http://www.fra.dot.gov/downloads/admin/assurancesandcertifications.pdf . The document should be signed by an authorized certifying official for the applicant. Submit through <i>GrantSolutions</i> .	Form

PRA Public Protection Statement: Public reporting burden for this information collection is estimated to average 32 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. According to the Paperwork Reduction Act of 1995, a federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with, a collection of information unless it displays a currently valid OMB control number. The valid OMB control number for this information collection is 2130-0583.